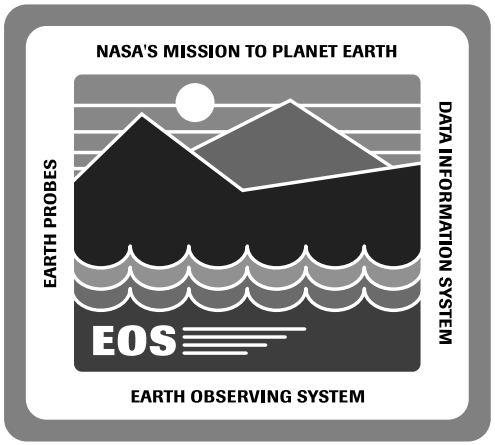
SDS - 4.6.3.3



SDS Scenario #3

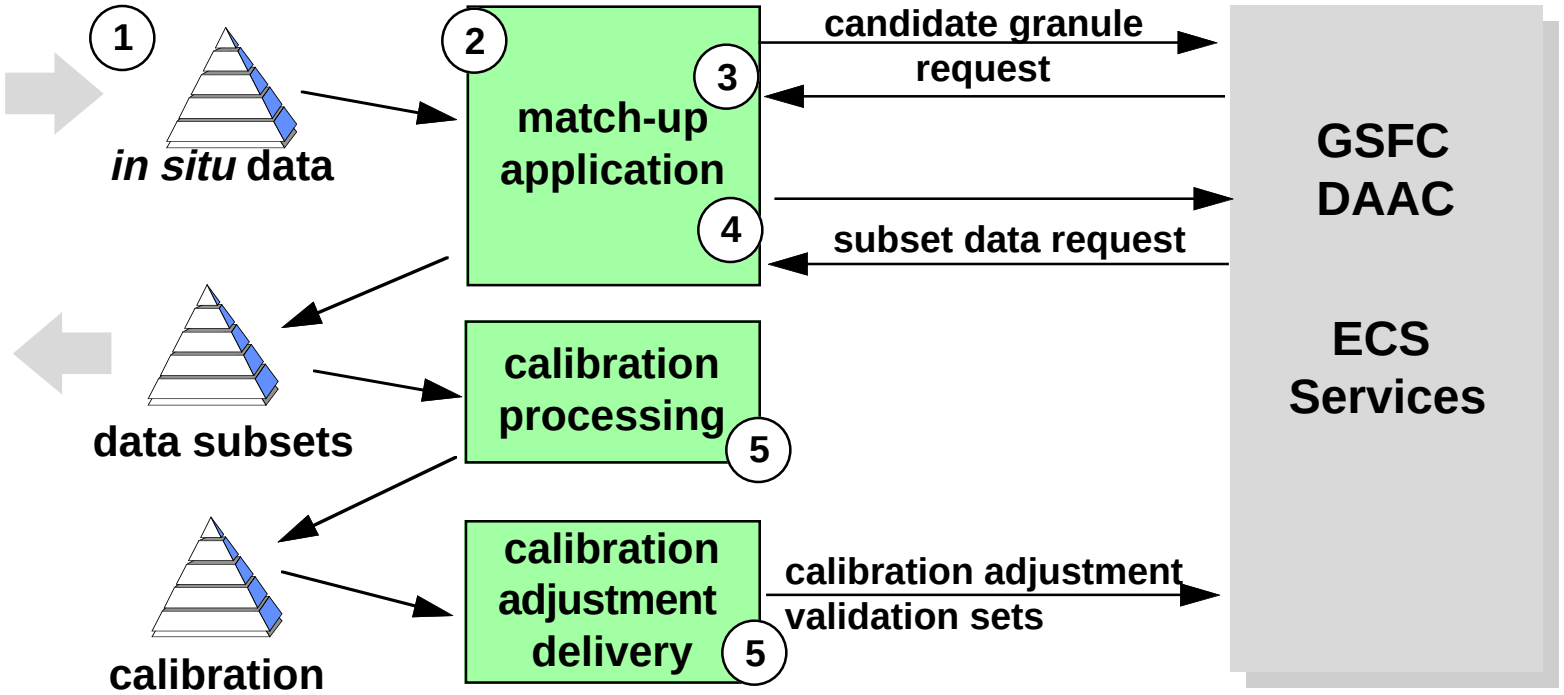
Mark Elkington/Ron Williamson

System Design Review - 28 June 1994

SDS Scenario #3 - Machine-to-Machine Interaction

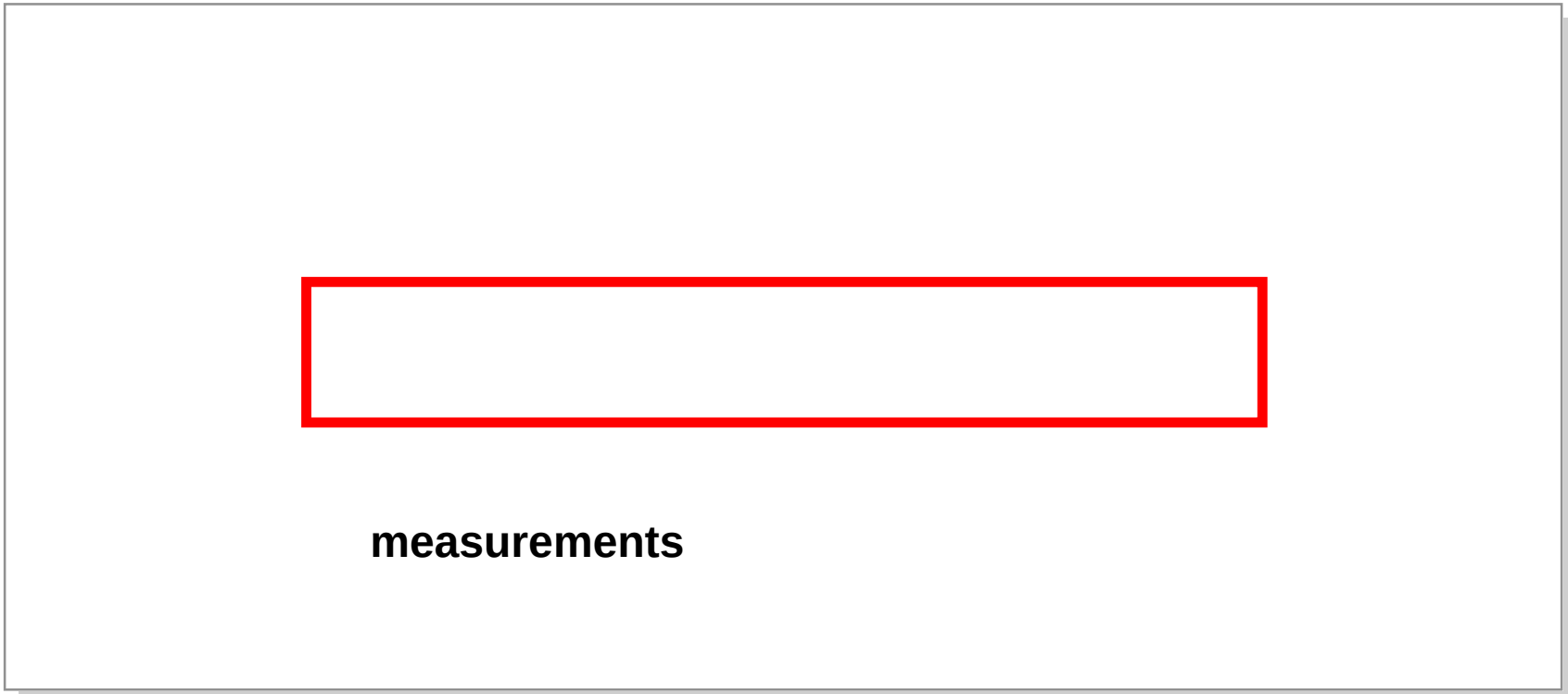
User Model Scenario #47 ("*MODIS Ocean Team Short-term Calibration Activity*")

Miami SCF receives *in situ* data products from other MODIS investigators and non-NASA sources (moored/floating buoys, other vessels) - typically 100 data sets per day. Data are managed at SCF and used for routine calibration of MODIS Ocean data



Scenario #3 - Step 2

Time and space match-ups between the *in situ* data and MODIS data are generated using local orbital models to predict the times at which the satellite instruments observed the buoy location - automatically queries GDAAC for data.



Scenario #3 - Step 3, 4

The query results are processed at the SCF to refine the list of candidate MODIS granules by a coincident search of satellite measurements occurring within ± 15 minutes and within 10 km of the buoy measurement.
unfavorable sun-glint angles are eliminated.

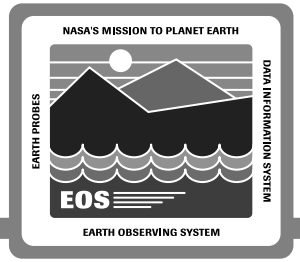
- **application performs refinement of candidate granules**
- **application requests 500km by 500km subsets from the candidate granules with centers at the positions of the *in-situ* buoy**

system performs subset on MODIS granules and returns sub-images for processing

Scenario #3 - Step 5

The sub-images are then processed at the SCF by iteratively adjusting the band-by-band sensor calibration to produce Level 2 water-leaving radiances and SST which agree with the buoy data.
GDAAC, for archiving with the corresponding MODIS products

Scenario #3 - Design Alternatives



- **Miami SCF could provide access to calibration data directly from data server at SCF through EOSDIS infrastructure**
- **match-up application could be implemented as a user method in the GDAAC Data Server using in-situ data held at Miami SCF - performance trade**
- **externalize-transfer-internalize for bulk file transfer while still retaining full object context - allows the client application to stop after issuing the request**

others . . . . . .